

Serial No.: 10/665,260
Docket No.: P21-155424M/YS
NGB.286

REMARKS

Applicant submits a Petition and Fee for Two-Months Extension of Time.

Claims 1-6 and 10-16 are all the claims presently pending in the application.

Entry of this Amendment is believed proper since no new issues are being presented to the Examiner which would require further consideration and/or search.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1, 3-4, 11 and 14-15 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Moretz, et al. (U.S. Patent No. 5,845,749) (hereinafter "Moretz"). Claims 2, 5-6, 12-13 and 16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Thackston, et al. (U.S. Patent No. 6,345,583) (hereinafter "Thackston"). Claims 1, 4 and 10-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bivens, et al. (U.S. Patent No. 6,269,919) (hereinafter "Bivens").

These rejections are respectfully traversed since there are features of the claimed invention that are taught or suggested by the cited references.

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I. THE PRIOR ART REFERENCES

A. The Moretz Reference

The Examiner alleges that the invention of claims 1, 3-4, 11, and 14-15 are anticipated by Moretz. However, Applicant submits that the reference does not teach or suggest each and every element of the claimed invention.

Moretz discloses a linear motion absorber for damping linear movement utilizing a cylinder having a reciprocal piston located therein. (See Moretz at Abstract)

However, Moretz does not teach or suggest *“a cylinder formed in a tubular shape, defining a guide hole at one end portion thereof,”* or *“a reinforcing plate comprising a material which is different than a material of the piston and string member, attached to the piston as a mount for receiving the helical spring,”* as recited in claims 1, 4 and 11.

Instead, Moretz discloses a cylinder 12 including “a permanently closed end 16 and an open end 18 adapted to be closed by a cap.” (See Moretz at Figures 2 and 4, and column 3, lines 54-59) The cylinder open end 18 is closed by a cap 50 which mounts upon the cylinder outer end and includes a radial web 52. A “hole 56 is defined in the cap web 52 ... to slidably receive the piston rod stem 36.” (See Moretz at Figures 2 and 4, and column 4, lines 25-36) (Emphasis added)

The inventions of claims 1, 4, and 11, on the other hand, provide a cylinder formed in a tubular shape, defining a guide hole at one end portion thereof. Thus, the guide hole is defined at an end portion of the cylinder. However, as noted above, Moretz discloses that the hole 56 is defined in the cap web 52 of the cap 50 which mounts upon the cylinder outer end. Clearly,

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Moretz does not teach or suggest that the hole 56 is defined in the cylinder 12, as in claims 1, 4 and 11.

Further, Moretz discloses that the “compression spring 62 is located around the stem 36, and a washer 64, FIGS. 2 and 4, slidably mounted upon the stem 36 engages an end of the spring 62.” An o-ring 66 is disposed between the washer and the cap web 52 so as to seal the cap hole 56. (See Moretz at column 4, lines 36-40) Therefore, as shown in Figures 2 and 4, the washer 64 (misabeled in the Figures as 62) is located adjacent to the cap web 52 and urged into place by the compression spring 62.

The inventions of claims 1, 4, and 11, on the other hand, provide a reinforcing plate that is made of a material which is different than the material of the piston and string member and is attached to the piston to serve as a mount for receiving the helical spring. In this manner, the reinforcing plate attached to the piston that provides a surface upon which an end portion of the helical spring can be positively supported (Application at page 5, lines 17-21) while greatly facilitating assembly of the damper (Application at page 5, lines 1-9).

The Examiner alleges that the washer 64 of Moretz teaches the reinforcing place of claims 1, 4, and 11. However, Moretz does not teach or suggest that the washer 64 may be attached to the piston 14 as a mount for the compression spring 62. Indeed, Moretz makes no reference or suggestion that the piston 14 may include a washer 64 or any other element attached thereto to provide a mount for the compression spring 62. Moretz does not even recognize the desirability or benefit of attaching a reinforcing plate of any sort to the piston, as in claims 1, 4, and 11.

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Moretz further does not teach or suggest that the washer 64 comprises a material which is different than the material of the piston 14. In fact, Moretz makes no reference or suggestion to the material of the washer 64 at all. Clearly, Moretz fails to teach or suggest “*a reinforcing plate including a material which is different than a material of the piston and string member,*” as recited in independent claim 1. (Emphasis added) Moretz similarly does not teach or suggest that “*the material of the reinforcing plate is harder than the material of the piston and string member,*” as recited in claim 4. (Emphasis added)

In light of the above, clearly there are elements of claim 1, 4 and 11 that are not taught or suggested by Moretz.

Additionally, Moretz does not teach or suggest that “*the string member has a flat belt shape; the guide hole of the cylinder has a flat opening and a smooth arcuate face continuing to a wide width edge of the opening; and the string member having the belt shape is bent and guided along the arcuate face of the guide hole,*” as recited in claims 3 and 14-15.

Rather, Moretz discloses that “the piston rod constitutes a tubular stem 36,” and “the hole 56 is defined in the in the cap web 52 of a diameter to slidably receive the piston rod stem 36.” (See Moretz at Figure 1, and column 4, lines 14-16 and lines 27-28) (Emphasis added) Alternatively, Moretz discloses that a “flexible strand 106 is preferably formed of a metal cable or non-stretchable synthetic core,” and that “[p]referably, the diameter of the cap hole 102 is slightly less than the diameter of the strand 106.” (See Moretz at Figure 10, and column 6, lines 1-5 and lines 45-48)

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However, Moretz does not teach or suggest that the piston rod 36 or strand 106 may have a belt shape, as in claims 3 and 14-15. Indeed, as indicated above, Moretz merely discloses that the piston rod 36 or strand 106 have a tubular or circular shape of given diameter. Moretz certainly makes no reference or suggestion to the desirability to incorporate a piston rod 36 or strand 106 having a belt shape for the purpose of providing a stronger member which is able to be flexibly bent and guided. Clearly, Moretz does not teach or suggest that the string member has a belt shape, as in claims 3 and 14-15.

Additionally, Moretz discloses the “the strand 106 passes along the guide surface 100, and the conical configuration of the guide surface will permit the that portion of the strand exterior of the absorber to be misaligned.” (See Moretz at Figures 9 and 10 and column 6, lines 22-25) (Emphasis added)

Clearly, given the conical configuration of the guide surface 100 and diameter of the cap hole 102 disclosed in Moretz, the guide surface 100 defines a circular opening. In fact, Moretz does not teach or suggest any other desirable shape for the cap hole 102 or guide surface 100. Clearly, Moretz does not teach or suggest that the hole may have a flat opening and a smooth arcuate face continuing to a wide width edge of the opening, as in claim 3.

Further, as noted above, Moretz does not teach or suggest that the hole 56, 102 is defined in the cylinder 12, as in claims 3 and 14-15. Rather, Moretz discloses that the hole 56 is defined in the cap web 52 of the cap 50 which mounts upon the cylinder outer end, or alternatively, that the “central hole 102 is defined in the center hub of the cap.” (See Moretz at column 5, lines 63-65) (Emphasis added) Clearly, Moretz fails to teach or suggest “*a cylinder formed in a tubular shape, defining a guide hole at one end portion thereof,*” as

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recited in claims 3 and 14-15.

In light of the above, Applicant submits that there are elements of the invention of claims 1, 3-4, 11, and 14-15 that are not taught or suggested by Moretz.

B. The Thackston Reference

The Examiner alleges that the inventions of claims 2, 5-6, 12-13, and 16 are anticipated by Thackston. However, Applicant submits that the reference does not teach or suggest each and every element of the claimed invention.

Thackston discloses a bi-directional shock absorbing apparatus for attenuating undesirable dock movement. (See Thackston at Abstract)

However, Thackston does not teach or suggest that *"the string member branches into a plurality of portions and connects with the piston at a base end portion thereof; and the portions come together at a forward end portion of the string member,"* as recited in claims 2 and 12-13.

Rather, Thackston discloses "a dampening device 10 comprising two independent rods 20 and 30 positioned within a spring 40. Each independent rod 20 and 30 has a proximal end 22 and 32, respectively, and a distal end 24 and 24, respectively. Rod 20 is aligned in parallel with and in opposing direction to rod 30." (See Thackston at Figures 3 and 4, and column 3, lines 28-35) (Emphasis added) Therefore, in essence, Thackston teaches two independent, parallel pistons 20 and 30 which act upon the spring 40 therebetween to damp shocks.

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In the inventions of claims 2 and 12-13, on the other hand, the string member of the piston branches into a plurality of portions and connects with the piston at a base end portion thereof, and the plurality of portions come together at a forward end portion of the string member. This feature provides a string member that supports the piston such that the piston can be stably moved within the cylinder (Application at page 6, lines 8-11).

The Examiner alleges that the rods 20 and 30 of Thackston teach the plurality of portions recited in claims 2 and 12-13. However, there is no teaching or suggestion in Thackston that either rod 20 or 30 branches in any manner, and certainly not into a plurality of portions, as in claims 2 and 12-13. As noted above, rods 20 and 30 are independent of each other. Indeed, nowhere does Thackston teach or suggest that the rods 20 and 30 are branched in any manner in order to support the piston such that the piston can be stably moved within the cylinder. Thackston does not even recognize the desirability or benefit of branching the string member into a plurality of portions, as in claims 2 and 12-13.

Further, even assuming arguendo that the Examiner's allegations are proper, Thackston fails to teach or suggest that the rods 20 and 30 come together at an end portion thereof. Thackston actually explicitly teaches away from the rods 20 and 30 converging by indicating that the two rods are aligned in parallel with each other.

Clearly there are elements of claims 2 and 12-13 that are not taught or suggested by Thackston.

Further, Thackston does not teach or suggest "*a guide cap attached to the other end portion of the cylinder and defining a guide hole,*" or that "*the guide cap and the string member are integrally molded; and the string member is hooked to the piston within the*

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cylinder and is guided to the outside thereof,” as recited in claims 5-6 and 16.

Instead, Thackston, in addition to the above, discloses that “[t]he distal end 24 and 34 of each rod 20 and 30, respectively, is secured to the inner surface 76 of the respective support plate 70 and 72, wherein the proximal end 22 and 32 of each respective rod 20 and 30 extends through a throughhole 74a and 74b in the respective plate 70 and 72.” (See Thackston at Figures 3 and 4, and column 3, line 65 – column 4, line 3)

Clearly, there is no teaching or suggestion in Thackston of a guide cap integrally molded with a string member and defining a guide hole through which the sting member may be guided. Rather, as noted above, Thackston merely discloses that each rod passes through a throughhole in the support plate of the opposing rod. There is no teaching or suggestion in Thackston that a rod passes through the throughhole of its connected support plate.

However, Applicant submits that the Examiner is attempting to suggest that the support plate 70 and 72 of each respective rod 20 and 30 teaches the guide cap of claims 5-6 and 16. However, even assuming arguendo that the Examiner’s allegation is proper, the rod 20 connected to the support plate 72 would need to hook to the other support plate 70 and be guided to the outside through the throughhole 74b formed in the support plate 72 in order to teach the invention of claims 5-6 and 16. Clearly, there is no teaching or suggestion in Thackston of such a configuration.

Rather, Thackston clearly discloses that the rods 20 and 30 pass through the throughholes 74a and 74b of the support plates 70 and 72 of the opposing rod. Thackston makes no mention or suggestion of the rods 20 and 30 hooking to the opposing support plates 70 and 72 through which they pass. Indeed, the invention of Thackston would be inoperable

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if such a hooking were to be accomplished.

Clearly there are elements of claims 2 and 12-13 that are not taught or suggested by Thackston.

In light of the above, Applicant submits that there are elements of the invention of claims 2, 5-6, 12-13, and 16 that are not taught or suggested by Thackston.

C. The Bivens Reference

The Examiner alleges that the invention of claims 1, 4, and 10- 11 are unpatentable over Bivens. However, Applicant submits that the reference does not teach or suggest each and every element of the claimed invention.

Bivens discloses a plastic strand damper having a strand element that is integrally molded with the piston on one end and an attachment element on a second end (Bivens at Abstract). The damper includes a coil spring wrapped around the strand element and abutting the piston and housing thereby urging the piston toward a retracted position (Bivens at column 3, lines 6-10) within a cylindrical housing. The strand element reciprocatingly passes through a central aperture in the closed end of the upper housing (Bivens at column 3, lines 13-15).

However, Bivens does not teach or suggest that “a reinforcing plate comprising a material which is different than a material of the piston and string member is attached to the piston to serve as a mount for receiving the helical spring” as recited in claims 1, 4, and 10 - 11. (Emphasis added)

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The Examiner again alleges that the undefined aspect shown in the figures of Bivens disposed between disc 16 and the first end 23 of the of the strand 24 teaches the reinforcing plate of claims 1, 4, and 10-11. However, the undefined aspect is never referred to or described in the disclosure of Bivens. Bivens certainly does not teach or suggest that the undefined aspect is a plate attached to the piston.

Bivens actually discloses that "the piston 12, strand element 24 and disk-shaped attachment element 26 are integrally molded." (See Bivens at Figure 2 and column 2, lines 65-66) (Emphasis added) Therefore, not only is the undefined aspect an integral part of the piston, it is made of the same material. Clearly, there is no teaching or suggestion in Bivens of a reinforcing plate attached to the piston, or of a plate formed of a material different than the piston, as in claims 1, 4, and 10-11.

The Examiner concedes that there is no teaching or suggestion in Bivens that the undefined aspect is formed of a material different than that of the piston, as recited in claims 1, 4, and 10-11. Rather, the Examiner alleges that "it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to modify the reinforcing plate to be constructed of a highly resilient material."

However, as noted above, there is no mention or suggestion in Bivens of a reinforcing plate of any type attached to the piston, as in claims 1, 4, and 10-11. Bivens certainly does not teach or suggest a reinforcing plate attached to the piston that greatly facilitates assembly of the damper. (See Application at page 5, lines 1-9)

Notwithstanding, even assuming arguendo that the undefined aspect were made of a material different than the piston, as alleged by the Examiner, as noted above, the undefined

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aspect is an integral feature of the piston, and thus not a plate attached to the piston, as in claims 1, 4, and 10-11. Indeed, Bivens does not even recognize the desirability or benefit of providing a reinforcing plate attached to the piston.

In light of the above, Applicant submits that there are elements of the claims 1, 4, 10 and 11 that are not taught or suggested by Bivens.

III. CONCLUSION

In view of the foregoing, Applicant submits that claims 1-6 and 10-21, all the claims presently pending in the application, are patentably distinct over the prior art of record and are allowable, and that the application is in condition for allowance. Such action would be appreciated.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned attorney at the local telephone number listed below to discuss any other changes deemed necessary for allowance in a telephonic or personal interview.

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The Commissioner is authorized to charge any deficiency in fees, including extension of time fees, or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Date: 7/11/06

Respectfully Submitted,

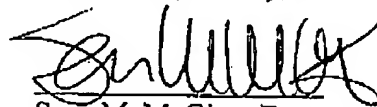


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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that I am filing this Amendment Under 37 CFR §1.116 by facsimile with the United States Patent and Trademark Office to Examiner Andre L. Jackson, Group Art Unit 3677 at fax number (571) 273-8300 this 11th day of July, 2006.



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